USE OF RECOMBINANT PARAINFLUENZA VIRUSES (PIVs) AS VECTORS TO PROTECT AGAINST INFECTION AND DISEASE CAUSED BY PIV AND OTHER HUMAN PATHOGENS

ABSTRACT OF THE DISCLOSURE

Chimeric parainfluenza viruses (PIVs) are provided that incorporate a PIV vector genome or antigenome and one or more antigenic determinant(s) of a heterologous PIV or non-PIV pathogen. These chimeric viruses are infectious and attenuated in humans and other mammals and are useful in vaccine formulations for eliciting an immune responses against one or more PIVs, or against a PIV and non-PIV pathogen. Also provided are isolated polynucleotide molecules and vectors incorporating a chimeric PIV genome or antigenome which includes a partial or complete PIV vector genome or antigenome combined or integrated with one or more heterologous gene(s) or genome segment(s) encoding antigenic determinant(s) of a heterologous PIV or non-PIV pathogen. In preferred aspects of the invention, chimeric PIV incorporate a partial or complete human, bovine, or human-bovine chimeric, PIV vector genome or antigenome combined with one or more heterologous gene(s) or genome segment(s) from a heterologous PIV or non-PIV pathogen, wherein the chimeric virus is attenuated for use as a vaccine agent by any of a variety of mutations and nucleotide modifications introduced into the chimeric genome or antigenome.